43. The recombinant soluble Fc receptor according to claim 41, wherein the receptor is FcγRIIb.

44. The recombinant soluble Fc receptor according to claim 41, wherein the receptor is of human origin.

45. The recombinant soluble Fc receptor according to claim 41, wherein the receptor contains one of the amino acids as shown in one of SEQ ID Nos: 1-6

46. The recombinant nucleic acid containing a sequence encoding a recombinant Fc receptor according to claim 41, wherein said nucleic acid is contained on a prokaryotic expression vector.

47. The recombinant nucleic acid according to claim 46, wherein said nucleic acid contains one of the sequences shown in one of SEQ ID Nos: 7-12

48. The recombinant nucleic acid according to claim 46, wherein said nucleic acid additionally contains expression control sequences operably linked to the sequence encoding the recombinant Fc receptor.

49. A host cell characterized by the presence of a recombinant nucleic acid according to claim 46, wherein said cell is a prokaryotic host cell.

50. A process for the determination of the amount of antibodies of a certain Ig class in the blood, plasma or serum of a patient, comprising the use of a recombinant soluble Fc receptor according to claim 41 in an immunoassay and the determination of the presence of FcR-antibody complexes.

51. The process according to claim 50, wherein the immunoassay is an ELISA assay.

52. The process according to claim 50, wherein the antibodies to be determined are IgE antibodies and the recombinant soluble receptor is a FcεR.

53. The process according to claim 52 for determination of a predisposition of manifestation of an allergy.

54. The process according to claim 50, wherein the antibodies to be determined are IgG antibodies and the recombinant soluble receptor is a FcγR.

55. A process for determination of the immune status of patients with chronic diseases of the immune system, wherein a Fc receptor according to claim 41 is used in a competitive immunoassay and the amount of the corresponding sFcRs in the blood, plasma or serum of a patient is determined.

56. The process according to claim 55, wherein the chronic disease is AIDS, SLE, MM or rheumatiod arthritis.

57. The use of a recombinant soluble Fc receptor according to claim 41 for the screening of substances for their ability to act as inhibitors of the recognition and binding of antibodies to cellular receptors.

58. The use of a recombinant soluble Fc receptor according to claim 57, wherein recombinant soluble FcγRs are used and recognition and binding of lgG antibodies is of interest.

59. A pharmaceutical composition containing as active agent a recombinant soluble FcR according to claim 41.

60. The pharmaceutical composition of claim 59 for use in the treatment or prevention of autoimmune diseases, allergies or tumor diseases.

61. The pharmaceutical composition of claim 59 for use in treatment of AIDS, rheumatoid arthritis or multiple myeloma, containing a recombinant soluble FcγR preferably having the amino acid sequence as shown in SEQ ID No.:1

62. A crystalline preparation of a soluble recombinant Fc receptor according to claim 41.

63. A crystalline preparation of a soluble recombinant Fc receptor / immunoglobulin complex.

64. The use of a crystalline preparation of a soluble recombinant Fc receptor according to claim 41 for generation of crystal structure data of Fc receptors.

65. The use of a crystalline preparation of a soluble recombinant Fc receptor / immunoglobulin complex for generation of crystal structure data of receptor / Ig complexes and their respective binding sites.

66. The use of crystal structure data obtained by use according to claim 64 for identification and/or preparation of Fc receptor or immunoglobulin inhibitors.

67. The use of crystal structure data, obtained by use according to claim 65, for identification and preparation of new antibody receptors.

68. The use of a crystalline preparation of a soluble recombinant Fc receptor according to claim 64 in a computer-aided modeling program.

69. An FcR inhibitor having a three-dimensional structure which is complementary to the recombinant soluble FcR of claim 41.

70. An immunoglobulin-inhibitor, having a three-dimensional structure which is complementary to an Fc receptor binding site of an immunoglobulin.

71. A pharmaceutical composition containing a FcR inhibitor according to claim 69.

72. A pharmaceutical composition containing an immunoglobulin inhibitor according to claim 70.

73. The pharmaceutical composition according to claim 71 for use in the treatment or prevention of diseases which are due to overreactions or faulty reactions of the immune system.

74. The pharmaceutical composition according to claim 71 for treatment or prevention of allergies, autoimmune diseases or an anaphylactic shock.

75. The use of a molecule for modulation of the interaction between an Fc receptor and immunoglobulin, wherein the molecule is designed or identified using crystal srtucture data obtained from crystalline preparations according to claim 62.

76. The use of a molecule for modulation of the interaction between an Fc receptor and immunoglobulin according to claim 75, wherein the modulation is partial or complete inhibition of binding between Fc receptor and immunoglobulin.

77. The Fc receptor of claim 41, bound to a solid phase.

78. The Fc receptor of claim 77, wherein the solid phase is a chromatography carrier material.

79. The use of a chromatography carrier material according to claim 78 for adsorption of immunoglobulins from the blood, plasm or serum of a patient or from culture supernatants of immunoglobulin producing cells.

80. The use of a chromatography carrier material according to claim 79, for enrichment of antibodies from a patient's blood, serum or plasma or from culture supernatants of immunoglobulin producing cells for conduction of further tests.

Respectfully submitted,

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